pl. xxviii. figs. 1-13 (1841); Dana, U.S. Expl. Exp. xiii. Crust. i. p. 406 (1850).

Blepharopoda spinosa, Stimpson, Proc. Ac. Nat. Sci. Phil. p. 230 (1858).
Hab. Peru, San Lorenzo (Dana).
The locality whence the specimen described by Milne-Edwards and Lucas was obtained is not stated; and there is nothing in their description to distinguish it from either of the foregoing species. The hands are represented in the figure as devoid of spines, but are described as spinose. Dana gives no particulars which would serve to characterize the specimens collected by the U.S. Exploring Expedition.

## EXPLANATION OF PLATE V.

Fig. 1. Front of Remipes testudinarius, nat. size.
2. " ", var. denticulatifrons, also nat. size.
3. Remipes strigillatus, Stimpson, nat. size.
4. The same, lateral view.
5. R. truncatifrons, n. sp., nat. size.
6. The same; lateral view.
7. Mastigochirus gracilis, Stimpson, $\times 2$ diam.
8. M. qiuadrilobatus, n. sp., $\times 2$ diam.
9. Front of Hippa emerita, Latr., nat. size.
10. " ," analoga, Stimpson, nat. size.
11. ", asiatica, M.-Edw., nat. size.
12. Albunea microps, White, MS., nat. size.
13. ", ", abdomen of male, $\times 2$ diam.
14. A. oxyophthalma, Leach, nat. size.
15. " $\quad, \quad$ abdomen of male, $\times 2$ diam.
16. Lepidops myops, Stimpson, nat. size.

Descriptions of new Species of Phytophagous Coleoptera.
By Joseph Baly, Esq., M.R.C.S., F.L.S., \&c.
[Read December 20, 1877.]
List of Species and their Habitat.
Sagra longipes............. . Burmah. ferox . . . . . . . . . . . . . South Africa, Ribé.
Megascelis posticata ...... Pebas, Upper Amazons.
, femorata ...... Amazons.
" basalis ........ Rio Janeiro.
Megalostomis placida .... Ega, Upper Amazons.
Diaspis batesi ........... Ega, Upper Amazons.

| Chlamys velu |
| :---: |
| placida . . . . . . . . Ega, Upper Amazons. |
| chinensis ........ China. |
| fulvipes ........ India. |
| Lamprosoma tricolor . . . . . Amazons, Santarem. |
| batesi ...... Upper Amazons. |
| hypochryseum. . Mexico, Guatemal |
| cupricolle .... Ega, Upper Amazons. |
| amazonum .... Ega, Upper Amazons. |
| tridentatam .. Brazil. |
| canaliculatum.. Upper Ama |
| cuneatum .... Cayenne |
| atum. . . . . . Columbia. |
| Doryphora verrucosa . . . . . Brazil, Neu-Fribourg, |
| buckleyi ..... Ecuador. |
| undulata ...... Columbia. |
| dorsomaculata .. Bahia. |
| moesta .. ...... Columbia, Bogota. |
| jacobyi ........ Ecuador. |
| Labidomera imperialis .... Rio Janeiro. |
| Deuterocampta saundersi .. Braz |

## Genus Sagra, Fabr.

Sagra longipes, n. sp. Elongato-ovata, convexa, viridi-cyanea, nitida, antennis (articulis quinque opacis nigris exceptis) elytrisque metallico-cæruleis; his anguste obovatis ${ }^{*}$, magis oblongis $\mathcal{P}$, convexis, infra basin leviter transversim depressis, tenuiter punctatostriatis, striis gemellatis, fere totidem deletis, interspatiis obsolete sinuato-impressis.
Var. A. Fcem. corpore dorso (antennis extrorsum exceptis) pedibusque metallico-cæruleis.
Mas femoribus posticis minus incrassatis, corpus valde superantibus, subtus ante apicem spinis duabus, prima valida, armatis; tibiis ejusdem paris elongatis, pone basin paullo recurvatis, deinde ad apicem incurvatis, apice introrsum leviter flexis, apice ipso mucronato, spinis duabus, prima interna valida, intus paullo ante apicem, secunda externa, parva, fere ad apicem positis, armatis.
Frem. femoribus posticis corpus non superantibus, subtus ad apicem crista brevi instructis; tibiis ejusdem paris regulariter curvatis, simplicibus. Loug. of 10 lin., \& 9 lin.
Hab. Burmah.
Antennæ three fourths the length of the body in the $\delta^{2}$, rather
shorter in the $q$, six lower joints nitidous, metallic blue, the rest opaque black; second joint rather shorter than the third in the $\delta^{7}$, the latter slightly longer than the fourth ; in the $\%$ the second joint is much shorter than the third, this latter joint being equal in length to the fourth. Thorax subquadrate, scarcely longer than broad, subcylindrical, scarcely constricted on the sides, the anterior angles very slightly prominent, very obtuse; upper surface opaque, impressed at the base with an oblong fovea. Elytra much broader at the base than the thorax, narrowly obovate and attenuated from the middle to the apex in the $\delta$, more oblong and less attenuated posteriorly in the $\%$; convex, transversely depressed below the basilar space, finely punctate-striate, the striæ arranged in double rows, the punctures nearly obsolete over the whole surface of the elytra, being principally visible below the basilar space.

The male of this beautiful species may be known from its congeners by its slender elongated hinder thighs; the female, which is nearly equal in size to the male, and therefore probably fully developed, differs in the absence of the spines on the under surface of the hinder thigh.

Sagra ferox, n. sp. Elongata, subcylindrica, obscure metallico-olivacea, cyaneo tincta, subopaca, antennis obscure metallico cæruleis; thorace subquadrato, cylindrico, opaco, impunctato, angulis anticis prominulis, obtusis; elytris thorace latioribus, subelongatis, ad apicem attenuatis, supra convexis, ante medium subnitidis, apicem versus opacis, evidenter punctato-striatis, striis gemellatis, apicem versus fere obsoletis.
Mas femoribus intermediis subtus ante apicem spina valida acuta armatis; femoribus posticis corpus valde superantibus, basi fulvotomentosis, dorso ad apicem profunde et late canaliculatis, subtus pone medium crista denticulata brevi, et ante apicem spina valida acuta armatis; tibiis ejusdem paris elongatis, gracilibus, infra basin leviter sinuatis, apicem versus introrsum flexis, extus ante apicem crista oblonga, intus tuberculo obtuso instructis. Long. $9 \frac{1}{4}$ lin.
Hab. South Africa, Ribé.
Antennæ nearly three fourths the length of the body; the third and two following joints oval, nearly equal in length. Thorax rather longer than broad, its anterior angle only slightly produced, very obtuse; above cylindrical, opaque, impunctate. Elytra much broader at the base than the thorax, subelongate, attenuated from behind the middle to the apex ; above subcylin-
drical, the humeral callus prominent, bounded within by a longitudinal groove; surface subnitidous on the anterior disk, opaque behind the middle. Each elytron with ten rows of punctures, approximating in pairs and distinct on the anterior disk, obsolete towards the apex of the elytron ; interspaces impunctate, faintly impressed (when seen under a lens) with a few sinuous strigæ.

Separated from the male of S. bicolor, the only known species which with it can be confounded, by the armed intermediate thighs and by the stronger punctuation of the elytra.

## Genus Megascelis, Latr.

Megascelis posticata, n. sp. Elongata, parallela, subeylindrica, sordide fulva aureo micans, pube aurea depressa vestita, pedibus sordide flavis, pectore nigro, abdomine obscure metallico-cæruleo; capite (labro antennisque exceptis) viridi-æneo; thorace piceo tincto, dimidio longiore quam latiore, lateribus ante basin constrictis, dorso deplanato, sat fortiter punctato, utrinque oblique impresso-strigoso; elytris parallelis, apice dehiscentibus, sat fortiter punctato-striatis, interspatiis ante medium rude, pone medium minus evidenter rugulosis, dimidio postico cæruleo-nigro. Long. $3 \frac{1}{2}$ lin.
Hab. Pebas, Upper Amazons.
Head rugose-punctate, vertex and neck smooth, nearly impunctate; face between the upper portion of the eyes impressed with a longitudinal groove; clypeus semilunate, its surface nearly covered with two large parallel foveæ, the mesial line distinctly thickened; antennæ nearly two thirds the length of the body, filiform, scarcely thickened towards the apex, entirely fulvous; jaws black. Thorax nearly one half longer than broad, the sides moderately constricted behind the middle. Scutellum trigonate, its apex broadly truncate, its surface rugose-punctate, piceoæneous. Elytra flattened along the suture, coarsely punctatestriate; interspaces transversely rugulose, the rugæ much finer and less distinct towards the apex. Body beneath more sparingly punctured than the upper surface; last segment of abdomen sinuate at its apex. Hinder thighs slightly thickened; hinder tibiæ thickened towards the apex, the latter armed within with a short stout tooth.

Megascelis femorata, n. sp. Angustata, subeylindrica, cæruleonigra, nitida, pube grisea parce vestita; capite thoraceque elongatulo viridi-æneis, antennis (apice albido excepto) pedibusque nigris, femoribus (apice excepto) pallide flavis; elytris nigris, sat fortiter punctato-
striatis, interspatiis levibus, hic illic ante medium obsolete transversim rugulosis. Long. $2 \frac{1}{3}$ lin.
\#ab. Amazons. A single specimen, formerly in the collection of Mr. W. W. Saunders.

Head nearly glabrous; vertex and neck shining, nearly impunctate, front finely and remotely, the upper portion of the face more closely and strongly punctured; space between the eyes impressed with a rather deep but ill-defined longitudinal groove ; clypeus transverse, bounded on either side by a short deep groove, its surface smooth and shining, impunctate ; labrum obscure fulvous; antennæ nearly as long as the body, filiform, not thickened towards the apex, three outer joints white, the rest black. Thorax nearly one fourth longer than broad, sides constricted behind the middle; above cylindrical, slightly but distinctly depressed transversely across the middle of disk; surface smooth, middle of disk nearly impunctate, glabrous, sides sparingly punctured, clothed with a few griseous hairs. Scutellum trigonate, slightly longer than broad, its apex obtusely truncate. Elytra broader than the thorax, parallel, dehiscent at the sutural angle, slightly depressed along the base, regularly punctate-striate; interspaces smooth and shining, impunctate. Hinder pair of thighs moderately thickened.

Megascelis basalis, n. sp. Elongata, subcylindrica, pube fulva parcius vestita, subtus fulva, pectore æneo-micante ; supra, antennis basi exceptis, fulvo-ænea, nitidissima, tibiis anticis quatuor dorso ad apicem, posticis apice tarsisque nigris; thorace viridi-æneo macuculato, paullo latiore quam longiore, dorso complanato, utrinque excavato, pone apicem sparse, basi minus remote punctato; elytris quam thorax multo latioribus, anguste oblongis, parallelis, sat fortiter punctato-striatis, interspatiis transversim rugulosis, rugulis ad apicem fere deletis, utrinque macula ovata baseos metallico-cærulea, callo humerali læte viridi-metallico. Long. $3 \frac{1}{2}$ lin.

## Hab. Rio Janeiro. Collected by the late Mr. Squire.

Vertex and neck nearly impunctate; upper portion of face sparingly impressed with deep punctures; space between the upper half of the eyes with a fine longitudinal groove, its anterior extremity bifurcate, surface between the bifurcations depressed; clypeus transverse, bounded on either side by a deep oblique groove ; its surface nearly impunctate, only a very few punctures being visible at the extreme base; jaws black; antennæ with the three lower joints æneous, the following five black (the others
wanting). Thorax rather broader than long; sides parallel, slightly rounded, slightly constricted before the base; disk distinctly flattened, very faintly depressed across its middle, the depression terminating on each side in a large distinct excavation, the surface of which is stained with metallic green ; just in front of the base are also some irregular concolorous markings; upper surface very smooth and shining, sparingly clothed with adpressed fulvous hairs, very distantly punctured behind the apex, rather more closely so towards the base and on the sides. Scutellum trigonate, its apex broadly truncate. Elytra much broader than the thorax, parallel, depressed along the suture, rather strongly punctate-striate; interspaces uitidous, transversely rugulose, the rugæ nearly obsolete towards the apex.

## Genus Megalostomis, Lacord.

Megalostomis placida, n. sp. Anguste oblonga, subcylindrica $\widehat{\delta}$, magis ovata ㅇ, fulvo-picea, subtus pube sordide albido-fulva adpressa dense vestita, supra minus dense fulvo-sericea, antennis dilatatis nigris; labro, vertice, oculorum orbitis, thorace basi et apice, elytrorum callo humerali limboque angusto, pygidii apice tarsisque nigropiceis; thorace subcrebre punctato; elytris leviter rugulosis, minus crebre punctatis. Long. $4-4 \frac{1}{2}$ lin. Mas. Capite magno, lato.
Hab. Ega, Upper Amazons.
Head rather closely punctured, space between the eyes broadly excavated on either side, the excavations separated by a narrow longitudinal ridge which extends downwards across the clypeus; vertex impressed with a small fovea; antennæ short, three lower joints nigro-piceous, the rest black, the basal joint strongly thickened, rotundate-ovate, the second and third short, equal, submoniliform, the fourth obovate, moderately dilated, the fifth to the eleventh compressed, laterally broadly dilated. Thorax more than twice as broad as long; sides straight, parallel in the $\sigma^{\circ}$, converging in the $q$, slightly sinuate before the middle, the anterior angles acute, slightly excurved; basal margin sinuate on either side the median lobe, the latter produced, obtusely truncate; above transversely convex, somewhat closely punctured, the interspaces between the punctures granulose-punctate ; at the base, in front of the median lobe, are three large, shallow depressions, the middle one perpendicular, the lateral ones oblique; surface clothed with adpressed hairs, rather more densely placed on the sides than on the disk. Scutellum large, trigonate, the sides
rounded, the apex acute ; upper surface finely punctured, narrowly edged with nigro-piceous. Elytra scarcely broader than the thorax, subquadrate-oblong; sides parallel in the $\delta^{\lambda}$, rather more attenuated towards the apex in the $\rho$, subcylindrical, rugulose, finely punctured, rather closely covered with pale adpressed hairs. Thighs stained above with nigro-piceous.

Closely allied to M. luctuosa ; shorter and more robust, paler in colour, the antennæ shorter in the male and more broadly dilated, the elytra more densely pubescent.

## Genus Diaspis, Lacord.

Diaspis batesi, n. sp. Subquadrata, obscure cuprea olivaceo tincta, granulosa, subopaca, antennis obscure rufis, extrorsum piceis; thorace crebre punctato, dorso valde gibboso, gibbere antice declivi, apice profunde longitudinaliter inciso ; elytris profunde rugoso-punctatis, utrinque costa elevata bicurvata a callo humerali ad suturam oblique ducta tuberculisque sex (duobus ante cæteris infra, medium positis) instructis ; pygydio longitudinaliter tricarinato. Long. $2 \frac{1}{4}$ lin.

## Hab. Ega, Upper Amazons. Collected by Mr. Bates.

Head granulose, the vertex closely, the front more distantly impressed with round punctures; clypeus rugulose; labrum rufopiceous; five lower joints of antennæ obscure rufous, the six outer joints thickened, slightly compressed and forming an elongated piceous club. Thorax granulose-strigose, closely covered with round punctures, sides less closely punctured, hinder portion of disk with a strongly raised gibbosity, the anterior surface of which is very oblique ; its apex is divided by a broad, deep, longitudinal incision into two strong, longitudinally compressed protuberances, the apices of which are produced slightly backwards. Elytra slightly attenuated towards the apex, the latter truncate; each elytron with an oblique, bicurvate, strongly raised carina, which extends from just within the apex of the strongly raised humeral callus nearly to the middle of the suture; in addition, six elevated tubercles are arranged as follows:two before the middle (one at the base, halfway between the suture and the humeral callus, the other small, close to the suture, about halfway between the basal margin and the oblique ridge); four others below the oblique ridge, namely:- the first near the suture, longitudinally compressed, and forming a strongly raised elongate tuberosity; the second and third on the middle disk, much less distinct; lastly, the fourth subapical, transversely compressed and much more strongly raised than the
rest. Middle third of lateral margin reflexed. General surface of the elytra coarsely and irregularly rugose-punctate, the rugosities strigose. When viewed in certain lights, the body presents a velvety appearance.

Chlamys memnonia, Lac. (the type of which, formerly belonging to M. Pilate, is now in my possession), has a distinct second scutellum, and belongs to the present genus. Ch. moestifica, Lac., must for the same reason be placed in this genus.

## Genus Chlamys, Knoch.

Chlamys velutina, n. sp. Anguste subquadrato-oblonga, rufopicea, opaca, antennis extrorsum nigris; thorace fortiter subremote punctato, medio gibboso, gibbere sat elevato, antice declivi, elevatoreticulato, apice longitudinaliter sulcato, sulco postice utrinque costa irregulari elevata marginato-nigro-piceo, gibbere antice et apice rufo-piceo; elytris rufo-piceis, nigro-piceo (basi excepta) late marginatis, rude rugosis, utrinque tuberculis duobus ante apicem oblique positis costisque elevatis longitudinalibus tribus, harum prima a basi inter callum humerale et suturam ad declivitatem apicalem extensa, sinuata, basi tuberculo compresso acuto instructa, ad apicem magis elevata et in spinam compressam retrorsum spectante abrupte desinente, secunda minus elevata, a basi prope suturam ad paullo infra medium extensa, basi et medio tuberculata, apice costa brevi transversa valde elevata ad cristam primam connexa, tertia brevi, inter callum humerale et costam primam posita, curvata, ad illam costam paullo ante medium connèxa, instructis. Long. 2 lin.
Háb. Amazons. Collected by Mr. Bates.
Head opaque, impressed on the vertex with a fine longitudinal groove ; eyes deeply notched ; jaws pitchy black ; antennæ shorter than the thorax, the seven outer joints compressed, the five upper ones black. Thorax rugose, deeply punctured on the sides, the disk strongly gibbose, the anterior surface of the gibbosity oblique, its apex longitudinally sulcate ; covered (the front excepted) with irregular raised reticulations which form an irregular longitudinal ridge on either side of the hinder portion of the apical groove. Elytra scarcely broader than the thorax, oblong, convex, rugose, deeply punctured, the punctures on the sides arranged in longitudinal rows ; each elytron with three irregularly serrulate longitudinal ridges-one commencing at the base, halfway between the suture and the humeral callus, slightly flexuose, and extending downwards as far as the deflexed apical portion of the elytron, its base armed with a compressed acute tooth, below the middle the ridge gradually increases in height, its apex terminating abruptly

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in a compressed tuberosity, the apex of which is directed backwards; the second commences near the scutellum and runs parallel to the suture, terminating a little below the middle of the elytron, at its apex it is connected by a short, strongly raised, transverse costa with the first ridge, at its base and again at its middle it is furnished with a compressed acute tuberosity; the third raised line commences just within the humeral callus, and, curving gradually inwards, unites with the central ridge at about the end of the anterior third of its course ; placed obliquely on the outer disk below the middle are two raised tubercles, the anterior one ill-defined, the hinder one strongly raised ; parallel to these, placed between the median longitudinal ridge and the suture, is a small oblong tubercle. Pygidium, together with the sides and apex of abdomen, nigro-piceous, the former with a narrow raised median vitta.

Chlamys placida, n. sp. Subquadrata, valde convexa, castanea piceo tincta, opaca, antennis extrorsum nigris ; thorace utrinque fortiter punctato, disco modice gibboso, gibbere elevato-reticulato, apice leviter canaliculato; elytris fortiter punctatis, granuloso-rugosis, utrinque carinis longitudinalibus tribus, prima curvata, basi et apice magis elevata, a basi juxta scutellum ad suturam ante medium producta, duabusque flexuosis, a basi fere ad apicem extensis, instructis. Long. $2 \frac{2}{3}$ lin.

## Hab. Ega, Upper Amazons.

Head opaque, distantly punctured ; face broadly excavated longitudinally between the upper portion of the eyes; anterior border of clypeus concave; antennæ much shorter than the thorax, robust, the eight outer joints compressed and dilated, the six upper ones black. Thorax opaque, granulose, impressed, but not closely, with large, deep, round punctures, those on the sides at the base piceous, the basal margin also narrowly edged with piceous; disk gibbose, surface of the gibbosity elevate-reticulate, its apex very obtuse, longitudinally canaliculate ; on eacb side the gibbosity at the base is an oblique depression. Elytra dehiscent at the extreme base, scarcely broader than the thorax, opaque, strongly and deeply punctured, many of the punctures furnished each with a single, very short, sericeous scale; the anterior disk stained with piceous ; each elytron with three longitudinal ridges, the first short, curved, arising at the base close to the scutellum, and terminating on the suture before its middle, thickened and subtuberculate both at base and apex ; the second commencing on
the basal margin, halfway between the suture and humeral callus, and running downwards and somewhat obliquely inwards as far as the deflexed apical portion of the elytron; the third commences at the base just within the humeral callus, its anterior third curving move strongly inwards than the former one, until it nearly reaches the second ridge, the two on their middle third running nearly contiguous and parallel to each other, being connected by ill-defined transverse costæ; at the commencement of its lower third it diverges, running obliquely outwards, and is lost on the surface of the outer disk nearly at a level with the apex of the second costa; close to the suture, halfway between its middle and apex, is an obtuse tuberosity. Pygidium broadly ovate-rotundate, truncate at the base, plane, deeply punctured, faintly excavated on either side at the base and towards the apex.

Chlamys chinensis, n. sp. Oblonga, convexa, nitida, subtus pallide picea nigro-piceo tincta, subtus nigro-picea; antennis nigris, basi piceis; thorace profunde punctato, lateribus piceo-verrucosis, disco gibboso, gibbere costis irregularibus piceis rete laxum formantibus instructo; elytris profunde punctatis, rete elevato irregulari et tuberculis nonnullis piceis instructis. Long. $1 \frac{2}{3}$ lin.
Hab. China. Collected by Mr. G. Lewis.
Head deeply punctured, nigro-piceous, variegated with fulvopiceous; vertex and front with a slightly irregular space on either side, the median surface concave ; antennæ with the seven outer joints compressed and dilated, nigro-piceous, the four lower ones pale piccous. Thorax deeply punctured, covered on either side with large, irregular, pale piceous, wart-like protuberances ; disk gibbous, the gibbosity obtuse, covered with coarse, raised, pale piceous rugæ, which form an irregular network on its surface. Elytra strongly punctured, irregularly strigose, and covered with coarse, irregular, strongly raised, pale piceous lines, which anastomose and form a loose network over the surface ; here and there at their points of junction they are still more strongly elevated, and form ill-defined tuberosities ; one of these, more distinct and transversely compressed, is placed near the suture below its middle; there are also several others strongly raised and well defined near the apex of each elytron.

Chlamys fulvipes, n. sp. Oblonga, convexa, nigra, subnitida, labro, antennis pedibusque fulvis, femoribus posticis fere totis, intermediis subtus, tibiisque extus nigris; thorace opaco, utrinque obtuse tuber-
culato, medio valde gibboso; gibbere laxe elevato-reticulato, apice longitudinaliter canaliculato ; elytris subnitidis, rude rugosis, tuberculis compressis nonnullis validis instructis; pygidio tricarinato. Long. 2 lin.
Hab. India.
Head closely punctured, front with a faint longitudinal impression; labrum fulvous; antennæ rather shorter than the thorax, the six outer joints dilated. Thorax opaque, slightly rugose, obtusely tuberculate on either side, disk strongly gibbous, the gibbosity oblique anteriorly, its apex longitudinally canaliculate, loosely elevate-reticulate. Elytra broadly oblong, less opaque than the thorax, coarsely punctured, the interspaces irregularly rugose, more strongly so on the hinder disk; each elytron with a number of raised compressed tuberosities arranged in three longitudinal rows-namely, four close to and parallel with the suture, four others on the line of junction between the inner and outer disks, less defined, and two on the outer disk itself; humeral callus thickened. Pygidium longitudinally tricarinate, the carinæ intersected and united below the base by a transverse costa.

## Genus Lamprosoma, Kirby.

Lamprosoma tricolor, n. sp. Breviter ovatum, postice attenuatum, valde convexum, subtus cum antennis nigrum, supra plumbeum, capite thoracisque angulis anticis viridi-æneis; clypeo late transversim emarginato ; elytris tenuiter punctato-striatis ; prosterno oblongoquadrato, postice paullo attenuato, disco antice leviter concavo, margine antico paullo elevato, medio sinuato. Long. $3 \frac{1}{2}$ lin., lat. $2 \frac{1}{3} \mathrm{lin}$.
Hab. Amazons, Santarem.
Vertex minutely and sparingly punctured, lower portion of face more strongly punctate; triangular space between the eyes and an oblique line bounding the clypeus on either side faintly excavated; clypeus short, its anterior margin deeply and broadly excavated, the hinder edges of the emargination transverse, nearly straight; labrum brassy green, its front margin obtusely angled, its surface coarsely punctured along the base, the anterior portion excavated, nearly free from punctures. Thorax more than twice as broad as long at the base; sides rounded and converging from base to apex, nearly parallel at the base ; upper surface impressed on either side just in front of the median lobe, very finely and distantly punctured. Scutellum metallic green. Elytra finely but distinctly punctate-striate.

Lamprosoma Batesi, n. sp. Breviter ovato-rotundatum, metallicoolivaceum, nitidum, ore antennisque (basi fulva excepta) nigris; corpore subtus, capite thoracisque lateribus rufo-aureis aut æneis; thorace tenuiter, sat remote punctato; elytris tenuiter punctato-striatis; clypeo antice abrupte declivi, leviter concavo-emarginato; prosterno subquadrato, plano, postice sinuato-emarginato. Long. $3 \frac{1}{2}$ lin., lat. $2 \frac{8}{6}$ lin.
Hab. Upper Amazons.
Head bright rufo-aureous, the extreme vertex olivaceous; surface very finely rugulose, finely but distinctly punctured ; face immediately above the clypeus faintly transversely excavated; apical portion of clypeus abruptly incurved, its anterior border concave; labrum black, its anterior surface deflexed, concave, the anterior border obtusely angulate. Thorax more than twice as broad as long ; sides converging and regularly rounded from base to apex ; basal margin very oblique and feebly bisinuate on either side, apex of median lobe obtuse; upper surface smooth and shining, finely but subremotely punctured; on either side at the base, close to the median lobe, is a shallow depression, the lobe itself slightly reflexed. Scutellum dark metallic green. Elytra finely but distinctly punctate-striate, the interspaces remotely impressed with very minute punctures. Prosternum subquadrate, plane, its sides sinuate, its apex sinuate-emarginate.

Lamprosoma hypochryseum, n. sp. Breviter ovatum, postice attenuatum, valde convexum, nitidum, supra metallico-cæruleum, sæpe viridi micans; corpore subtus, pedibus capite thoracisque limbo apicali angusto angulisque anticis aureis; abdominis lateribus, ore scutelloque nigris. Var. A. Corpus totum (ore scutelloque exceptis) metallicocæruleum. Long. 3-31 $\operatorname{lin}$., lat. 2-2 $2 \frac{1}{4}$ lin.

## Hab, Mexico, Guatemala.

Head granulose, distinctly but not closely punctured; vertex and front impressed with a faint longitudinal groove; anterior margin of clypeus concave-emarginate; labrum black, cupreoaureous at the base, its anterior surface oblique, concave, its anterior border obtuse. Thorax about twice as broad at the base as long; sides rounded and converging from base to apex; basal margin very oblique on either side, the median lobe angular, its apex obtuse ; above transversely convex, very minutely granulose; surface sparingly impressed with very fine punctures, which are larger and more strongly impressed on the middle of the base: in some specimens, on either side the basal lobe is a faint ill-defined
excavation, only visible in certain lights. Scutellum black. Elytra distinctly punctate-striate, interspaces smooth, impressed here and there with very minute punctures. Prosternum oblongquadrate, its hinder apex sinuate in the middle; surface plane, narrowly concave on the anterior margin.

Lamprosoma cupricolle, n. sp. Subrotundatum, valde convexum, nitidum, subtus cum antennis (harum basi fulva excepta) nigrum; supra rufo-aureum ; thorace cupreo, interrupte rufo-aureo limbato; elytris evidenter punctato-striatis. Long. $2 \frac{1}{2}$ lin., lat. 2 lin.
Hab. Ega, Upper Amazons. Collected by Mr. Bates.
Head finely but distantly punctured; front impressed with a perpendicular grooved line; clypeus (viewed from the front) deflexed, concave, its anterior margin also concave ; its surface granulose, æneous ; labrum black, concave-emarginate ; under surface of the basal and the whole of the second and third joints of the antennæ obscure fulvous, the remaining joints black. Thorax more than twice as broad as long at the base; sides obliquely converging and slightly rounded from the base towards the apex, more quickly rounded near the latter; basal margin very oblique on either side, the median lobe slightly reflexed, its apex rounded; upper surface impressed on either side just before the median lobe, sparingly and finely punctured; the entire lateral margin, the hinder margin for nearly its whole length, together with the middle of the apical border, narrowly edged with rufo-æneous. Scutellum metallic green. Elytra distinctly punctate-striate, interspaces smooth, impunctate. Prosternum oblong-quadrate, its surface plane.

Lamprosoma amazonum, n, sp. Subrotundatum ơ, ovato-rotundatum, postice attenuatum $\rho$, valde convexum, igneum nitidum, subtus cum antennis nigrum; thorace minus remote evidenter punctato; elytris evidenter punctato-striatis; clypeo paullo elevato, declivi, antice concavo-emarginato ; prosterno late oblongo-quadrato, plano, rugoso-punctato. Long. 3 lin., lat. $2 \frac{1}{2}-2 \frac{3}{4}$ lin.
Hab. Ega, Upper Amazons. Collected by Mr. Bates.
Head finely punctured, its surface somewhat irregular, faintly rugose on the lower face ; front impressed with a fine longitudinal groove ; clypeus slightly thickened, slightly deflexed, its anterior border concave-emarginate ; labrum black, its front margin obtusely angulate, its anterior surface inflexed, concave. Thorax more than twice as broad as long at the base; sides regularly rounded and converging from base to apex; basal margin very
oblique and very slightly bisinuate on either side, median lobe subacute; upper surface distinctly punctured, interspaces (when viewed under a lens) very minutely punctured ; at the base on either side the median lobe is a distinct depression. Scutellum narrowly trigonate, shining black. Elytra distinctly punctatestriate, interspaces remotely impressed with very minute punc. tures, only visible under a lens. Prosternum broadly oblongquadrate, its surface plane, coarsely rugose-punctate.

Lamprosoma tridentatum, n. sp. Ovatum, postice attenuatum, valde convexum, nitidum, subtus cum antennis nigrum, supra aureoæneum ; capite granuloso, tenuiter subremote punctato ; clypeo declivi, antice concavo-emarginato; labro tridentato; thorace remote tenuiter punctato; elytris sat fortiter punctato-striatis; prosterno plus duplo longiore quam latiore, plano, fortiter punctato, antice concavo. Long. 3 lin., lat. $2 \frac{2}{4}$ lin.
Hab. Brazil.
Head granulose, finely but not closely punctured; clypeus almost entirely separated from the face by a sutural line, its anterior surface gradually deflexed, more coarsely punctured than the upper face, its anterior margin concave-emarginate; labrum black, its anterior margin tridentate. Thorax more than twice as broad as long at the base; sides quickly converging and slightly rounded from base to apex; basal margin very oblique on either side, broadly but slightly concave near the outer angle, apex of median lobe subacute; upper surface distantly and finely punctured, impressed near the middle of the basal margin with a few large punctures ; at the middle of the base, just before the basal lobe, is a faint, ill-defined transverse impression. Scutellum narrowly wedge-shaped, black. Elytra rather strongly punctate-striate; interspaces plane, impressed here and there with faint irregular strigæ.

Lamprosoma canaliculatum, n. sp. Breviter ovatum, gibhosoconvexum, late metallico-purpureum, nitidum, pectore oreque nigris ; capite evidenter punctato; clypeo depresso, antice profunde concavoemarginato, sinus lateribus in dentem robustum obtusum, intus leviter curvatum, producto; thorace evidenter subremote punctato, nitido, utrinque ante lobum basalem vix excarato ; elytris distincte purctatostriatis, interspatiis (sub lente) tenuissime punctatis ; prosterno plus triplo longiore quam latiore, antice canaliculato. Long. 3 lin., lat. $2 \frac{1}{4}$ lin.

## Ḣab. Upper Amazons, Pebas.

Head finely but distantly punctured ; clypeus and a narrow tri-
angular space above depressed, the former on either side rather more deeply excavated; anterior margin broadly and deeply excavated, angles of the emargination produced into a stout, obtuse, slightly incurved tooth; labrum obtuse, its anterior surface excarated. Thorax more than twice as broad as long at the base ; sides obliquely converging and slightly rounded from base to apex ; basal margin very oblique and faintly bisinuate on each side, apex of median lobe obtuse; surface faintly excavated on each side just in front of the basal lobe, more strongly punctured than the head. Scutellum metallic green. Elytra distinctly punctatestriate, interspaces here and there faintly impresso-strigose, very minutely punctured, the punctures (visible only under a lens) arranged on each interspace in a broad longitudinal row. Prosternum narrow, elongate; sides elevated in front, the space between forming a deep longitudinal groove ; surface coarsely punctured. Legs robust, intermediate tibiæ not more dilated than the hinder pair.

Nearly allied to L. amesthystinum; one balf the size, more convex, and more attenuated posteriorly.

Lamprosoma cuneatum, n. sp. Ovatum, postice valde attenuatum, valde convexum, subtus cum antennis nigrum, supra læte metallicopurpureum ; capite granuloso, viridi-cyaneo, fortiter punctato, facie supra clypeum fovea magna impressa; clypeo plano, antice truncato; thorace sat fortiter minus remote punctato; elytris sat fortiter punc-tato-striatis, interspatiis remote tenuissime punctatis; prosterno quadrato-oblongo, longitudinaliter concavo, rude rugoso. Long. $3^{\frac{1}{2}}$ lin., lat. $2 \frac{3}{4}$ lin.

## Hab. Amazons.

Head granulose, coarsely but not very closely punctured; surface of front slightly irregular ; face impressed just above the clypeus with a large deep fovea; clypeus almost entirely separated from the face by a deeply impressed sutural line; its surface plane, its anterior border truncate, obsoletely sinuate in the middle; labrum black, impressed at the base with a transverse row of deep punctures; its anterior surface oblique, slightly concave, its anterior margin veryslightly emarginate; antennæ as long as the thorax, the five outer joints rather strongly dilated and forming a narrow oblong club. Thorax more than twice as broad as long; sides rounded and obliquely converging from base to apex, flattened along the middle; basal margin very oblique and sinuate on either side, median lobe obtuse ; upper surface rather coarsely
but not deeply punctured; on either side the basal lobe is a distinct excavation. Scutellum elongate-trigonate. Elytra very convex, much attenuated towards the apex, the humeral callus prominent ; punctate-striate, interspaces sparingly impressed with very minute punctures, outer interspaces faintly convex.

Lamprosoma armatum, n. sp. Ovatum, postice attenuatum, valde convexum, subtus nigro-cæruleum, nitidum, supra granulosum, subnitidum, plumbeum, capite æneo-micante, ore antennisque nigris; clypeo antice paullo inflexo, concavo-emarginato ; thorace remote tenuiter punctato; elytris evidenter punctato-striatis ; prosterno subquadratooblongo, postice plano, antice paullo concavo, margine antico utrinque in dentem validum deorsum producto. Long. $3 \frac{2}{3}$ lin., lat. 3 lin.
Hab. Columbia.
Head granulose, finely but remotely punctured; clypeus almost entirely separated from the face by a sutural line, its anterior portion incurved, its apex concave-emarginate; labrum black, its anterior surface obliquely depressed, concave, its apex produced into two short obtuse lobes. Thorax more than twice as broad as long at the base; sides converging and moderately rounded from base to apex, slightly flattened on the middle and towards the apex; basal margin very oblique and bisinuate on either side, median lobe distinctly produced, its apex subacute; upper surface granulose, finely and distantly punctured, the puncturing iather stronger at the sides and base; at the base on either side the median lobe is a distinct excavation. Scutellum black. Elytra distinctly punctate-striate. Prosternum nearly twice as long as broad, dilated in front, the anterior margin produced on either side into a strong acute tooth; surface plane, concave in front, distantly punctured.

## Genus Doryphora, $17 l$.

Doryphora verrucosa, n. sp. Rotundato-ovata, valde convexa, niger, subtus nitida, supra opaca, vertice puncto rufo armato ; thorace fere impunctato ; elytris sat profunde inordinatim punctatis, interspatiis elevatis, verrucosis; nitide fulvis, margine externo angusto limboque inflexo nigris; mesosterni spina valida, quam metasternum paullo longiore. Long. 7 lin.

## Hab. Brazil, New Friburg.

Head distantly and remotely punctured; vertex impressed with a longitudinal groove. Thorax more than twice as broad as long ; sides straight and nearly parallel from the base to the middle, then obliquely rounded and converging to the apex, the latter
strongly produced, subacute; upper surface slightly excavated on either side, very opaque, nearly impunctate, impressed on either side at the base with a few very minute punctures ; lateral margin bordered by a single row of large punctures, which extend, although less strongly marked, along the inner edge of the produced apex. Elytra broader than the thoras, subquadrate-ovate, very convex, deeply punctured, the interspaces thickened and forming irregular wart-like tubercles over the whole surface. Mesosternal spine very stout.
Doryphora Buckleyi, n. sp. Anguste oblonga, convexa, subtus cupreo-nigra, tibiis tarsisque interdum cyaneo tinctis, supra cuprea, nitida, antennis cyaneo-nigris, extrorsum nigris; thorace rude punctato, interspatiis irregulariter elevato-cicatricosis; elytris quam thoracis basis multo latioribus, apicem versus paullo attenuatis, convexis, pone medium declivibus, sordide fulvis, rude et profunde piceo-punctatis, punctis inordinatis, interspatiis ad apicem et ad latera incrassatis, subverrucosis, fasciis erosis tribus, prima baseos integra, secunda ante medium extrorsum abbreviata, tertiaque vix pone medium extrorsum interrupta et abbreviata, nee nou limbo inflexo nigro-æneis. Long. 8 lin. Hab. Ecuador. Collected by Mr. Buckley.
Head rugose-punctate, interspaces granulose ; front impressed with a longitudinal groove, which terminates between the eyes in a deep fovea; antennæ half the length of the body in the male, rather shorter in the female, nigro-cyaneous. Thorax nearly twice as broad as long; sides straight and slightly diverging from the base to beyond the middle, thence rounded and converging to the apex, the latter strongly produced, armed with a small fulvous tooth; upper surface deeply impressed with large round punctures, which are irregularly congregated over the surface; interspaces granulose, elevate-cicatrose. Elytra much broader at the base than the thorax, slightly narrowed towards the apex, the shoulders broadly rounded; above convex, the highest part of the convexity being before the middle, whence to the apex the surface is obliquely deflexed; deeply impressed with large piceous punctures, indistinctly placed in longitudinal rows on the anterior half of the inner disk, placed irregularly over the rest of surface; interspaces on the sides and apex thickened and subverrucose ; each elytron with three erose fasciæ, one narrow on the basal margin, a second before the middle, common, broad, attenuated externally, and abbreviated some distance within the lateral margin, and the third rather uarrower, more deeply and irregularly erose, abb reviated externally and also on the extreme
sutural margin, nigro-æneous ; inflexed limb nigro-cyaneous, longitudinally concave, its outer margin verrucose. Mesosternal spine stout, slightly longer than the metasternum.

Separated from $D$. biremis by the narrow, less convex form and by the coarser punctuation of the thorax and elytra.
Doryphora undulata, n. sp. Oblongo-ovata, convexa, nigra, nitida, pedibus nigro-cyaneis, capite thoraceque subnitidis, hoc tenuiter punctato ; elytris sat fortiter punctato-striatis, striis gemellatis, cyaneo-nigris, fasciis angulato-undulatis quatuor, prima baseos interrupta, secunda ante, tertia prope medium quartaque inter medium et apicem magis flexuosa, maculisque ante apicem, inter se et cum fascia apicali confluentibus, flavis; macula marginali pone medium posita rosea; limbo inflexo nigro, tertia parte intermedia punctoque prope basin roseis. Long. 6-7 lin.
Hab. Columbia.
Head opaque; antennæ half the length of the body, the five lower joints nitidous, nigro-cæruleous, the rest opaque black. Thorax twice as broad as long; sides straight and nearly parallel from the base to beyond the middle, thence rounded and converging to the apex, the latter submucronate; upper surface rather finely but distinctly punctured. Elytra oblong, rather strongly punctured, the punctures arranged in double rows, confused on the outer disk ; each elytron with four narrow angulose-undulate pale yellow fascix, the first at the extreme base, interrupted in the middle and on the outer border, the second between the base and the middle, abbreviated on the suture and at the outer margin, the third across the middle itself, entire, and the fourth halfway between the middle and the apex, abbreviated at the suture, the last very irregular and connected with several irregular concolorous patches, which extend nearly to the apex of the elytron; in addition, on the middle disk of each elytron between the third and fourth fasciæ is a short semilunate yellow line ; on the outer margin, just at the outer extremity of the apical fascia, is a small oblong red spot, connected beneath with the concolorous third of the inflexed limb; in some specimens are also several small spots of the same colour, placed near the apex of the elytron. Mesosternal spine strong, nearly equal in length to the metasternum.

Doryphora dorsomaculata, Jacoby *. Late oblongo-ovata, valde

[^0]convexa, pallide picea, nitida, antennis extrorsum nigris; thorace sat crebre punctato ; elytris sat fortiter punctato-striatis, prasinis, puncto basali, limbo exteriore, plagaque magna communi, a basi fere ad me dium extensa, postice rotundato-ampliata, piceis, vittulis duabus basalibus prope suturam lineaque submarginali flavis, sutura pone plagam sordide flava, spina sat valida. Long. $4 \frac{1}{2}$ lin.

## Hab. Bahia.

Thorax transverse, twice as broad as long; sides rounded, the anterior angles mucronate; disk rather closely punctured, the puncturing varying both in degree and density in different individuals. Elytra regularly punctate-striate, the punctures pale piceous; interspaces impunctate, with the exception of the one between the seventh and eighth striæ, which is impressed about its middle with a few punctures, equal in size to those on the striæ themselves.

Doryphora mesta, n. sp. Anguste oblonga, convexa, cupreo-nigra, nitida, antennis nigris ; thorace irregulariter punctato, angulis anticis mucronatis, mucrone fulvo; elytris sat fortiter punctatis, punctis disco externo inordinatis, disco interno striatim dispositis, striis gemellatis, fulvis, utrinque sutura maculisque sex supericiem fere amplectentibus cupreo-nigris, harum prima baseos postice erosa, secunda elongata apicali ad marginem apicalem adfixa, cæteris irregularibus fascias interruptas duas, unam ante alteram pone medium positas, formantibus; limbo inflexo fulvo, tertia parte apicali cupreo-nigra; spina valida. Long. 6 lin.

## Hab. Columbia, Bogota.

Face rather closely punctured between the eyes; antennæ half the length of the body. Thorax more than twice as broad as long; sides nearly straight and parallel, rounded and converging at the apex, the anterior angle mucronate, its apex fulvous; upper surface concave on either side, the surface irregularly punctured. Ely tra broader than the thorax, their sides parallel, their apices regularly rounded. Mesosternal spine rather shorter than the metasternum.

Nearly allied to D. cisseis, Stål ; at once known by its narrower thorax and by its narrower and more parallel form ; the markings on the elytra are also much larger, covering nearly the whole of the surface.

Doryphora Jacobyt, n. sp. Ovata, convexa, nigro-ænea, nitida, thorace sat crebre fortiter punctato ; elytris confuse gemellato-striatopunctatis punctis disco externo inordinatis, pallide stramineis; limbo angusto, ad suturam magis distincto, fasciisque duabus erosis,
prima ante medium, elytri medio abbreviata, alteraque vix pone medium, integra, paullo obliqua, nigro-cupreis. Long. $5 \frac{1}{2}$ lin.
Hab. Ecuador. Collected by Mr. Buckley.
Head rather closely punctured ; front impressed with a short longitudinal fovea; antennæ black, the basal joint nigro-cyaneous. Thorax scarcely twice as broad as long; sides straight and parallel from the base to beyond the middle, thence rounded and converging to the apex, the latter produced, armed with a short piceo-fulvous tooth; upper surface excavated on either side, deeply punctured, the punctures irregularly crowded on the inner disk, leaving here and there some impunctate patches. Elytra broader than the thorax, convex, rather finely but distinctly punctured, the punctures arranged in longitudinal rows on the inner disk and on the extreme outer margin of the elytron, these rows approximate, but rather indistinctly, in pairs: on the greater portion of the outer disk the puncturing is confused; the disk of each elytron with five or six obsoletely elevated vittæ; pale yellow, each elytron with a spot at the base near the scutellum ; a broad common erose fascia, abbreviated at the middle of the elytron, placed halfway between the base and the middle, and a second entire, also erose, slightly oblique, situated just below the middle, nigro-cupreous; inflexed limb longitudinally concave, black, with a faint metallic tint. Mesosternal spine rather longer than the metasternum.

## Genus Labidomera, Chevr.

Labidomera imperialis, n . sp. Rotundato-ovata, valde convexa, metallico-purpurea, subnitida, scutello, tarsis antennisque nigris, his basi piceis; thorace opaco impunctato; elytris tenuissime punctatostriatis, punctis in striis confusis, utrinque fascia irregulari pone medium, utrinque abbreviata, pustulisque tribus, prima subrotundata, infra basin prope suturam sita, duabusque prope medium transversim positis, externa trausversa, interna subrotundata, læte fulvis ornatis. Long, 5 lin.
Hab. Rio Janeiro. Collected by the late Mr. Squire.
Head smooth, impunctate; front and vertex impressed with a rery fine longitudinal groove; clypeus short, its upper margin transverse, its surface slightly concave, finely puuctured; antennæ half the length of the body, three lower joints piceous, stained above with black. Thorax more than twice as broad as long; sides rounded, converging in front, anterior angles acute; upper surface opaque, impunctate. Elytra very minutely punctate-
striate, the punctures very irregularly placed on the strix, the latter obsolete towards the apex ; interspaces very minutely granulosepunctate, sparingly aciculate.

## Genus Deuterocampta, Erichs.

Deuterocampta Saundersi, n. sp. Ovata, convexa, nigra, nitida; thorace subremote punctato, lateribus latis margineque apicali angusto, medio angulato, flavis; elytris evidenter punctato-striatis, utrinque vitta suturali, basi et apice angustata, maculisque sex, superficiem fere amplectentibus, nigris ornatis; harum duabus communibus, prima pone basin, subcordata, secunda ante apicem, transversim trigonata, tertia subrotundata, ad marginem humeralem adfixa, quarta et quinta prope medium transversim positis, oblongis, externa postice obliqua, ad marginem adfixa, sextaque marginali, minore, ad plagam communem trigonatam parallela. Long. 4 lin.
IIab. Brazil ; a single specimen, formerly in the collection of Mr. W. W. Saunders.

Four lower joints of antennæ, together with the palpi, piceous; face excarated and distinctly punctured on either side ; middle of front and vertex nearly impunctate, impressed with a fine longitudinal groove; upper margin of clypeus angulate; antennæ slightly less than half the length of the body, the four lower joints piceous, the five outer ones distinctly thickened. Thorax nearly three times as broad as long ; sides nearly parallel at the base, rounded and converging in front; disk subremotely punctured, sides impunctate.

The Life-history of Filaria bancrofti, as explained by the Discoveries of Wucherer, Lewis, Bancroft, Manson, Sonsino, myself, and others. By T. Spencer Cobbold, M.D., F.R.S., F.L.S., Professor of Botany and Helminthology, Royal Veterinary College.

> [Read March 7, 1878.]

The time has now arrived when we may, with profit, pass in review the essential facts of Hæmatozoal discosery in relation to this Filaria, and build up, as it were, a complete life-history of one of the most remarkable parasites that has ever engaged the attention of helminthologists. In short, I propose to show the steps by which we have acquired our present knowledge, what that knowledge actually expresses when summarized in the lowest possible number of convenient terms, and what practical consequences may be expected to flow from a fuller recognition of its


[^0]:    * Since this paper was read, Mr. M. Jacoby, in the 'Proceedings of the Zoological Society' for the present year, p. 146, has described this insect under the name given above. My description being already in type, it was too late to withdraw it.

